



**EASA**  
European Aviation Safety Agency

# Remote Tower Services in operation without support from standards and regulation

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# RTS Operational approval – single airport



- Operational approval from Swedish NSA 31 October 2014
  - Product development started in 2009 based on extensive investigations
  - Swedish NSA involved since 2011
- Full operation since 21 April 2015
  - Same operational services as provided before – NO CHANGE!



# Standards and Regulations

	V0	V1	V2	V3	V4	V5	V6	V7
CLM phases ▶	ATM Needs	Scope	Feasibility	Pre-industrial development integration	Industrialisation	Implementation	Operations	Decomm.
SESAR Governance	SJU				▶ Facilitation ◀	DM	NA	NA
AF Maturity for CP							NA	NA

*ATM Concept  
Lifecycle Model*

- ▶ **How to avoid that Standards & Regulation becomes a blocking factor?**
  - ▶ Difference between airborne systems (based on certification) and ground ATM systems (based on Safety Management System – SMS)
  - ▶ Combination of airborne and ground systems are extra difficult to deploy
- ▶ Apply an iterative and stepwise approach
- ▶ Start with minimal changes to the operational service provided
  - ▶ Start with “Guidance Material” based on R&D and validation (V1-V3)
  - ▶ Document experience from operations
  - ▶ Gain support and trust from operational users
- ▶ Develop standards and regulation as needed avoiding over regulation
- ▶ Risk mitigation to avoid “last mover” syndrome



# Further development planned - RTC 2.0



INTEGRATED CWP



AIRPORT CAMERAS & PTZ



INFRA-RED IMAGE



RADAR TRACKING LABEL



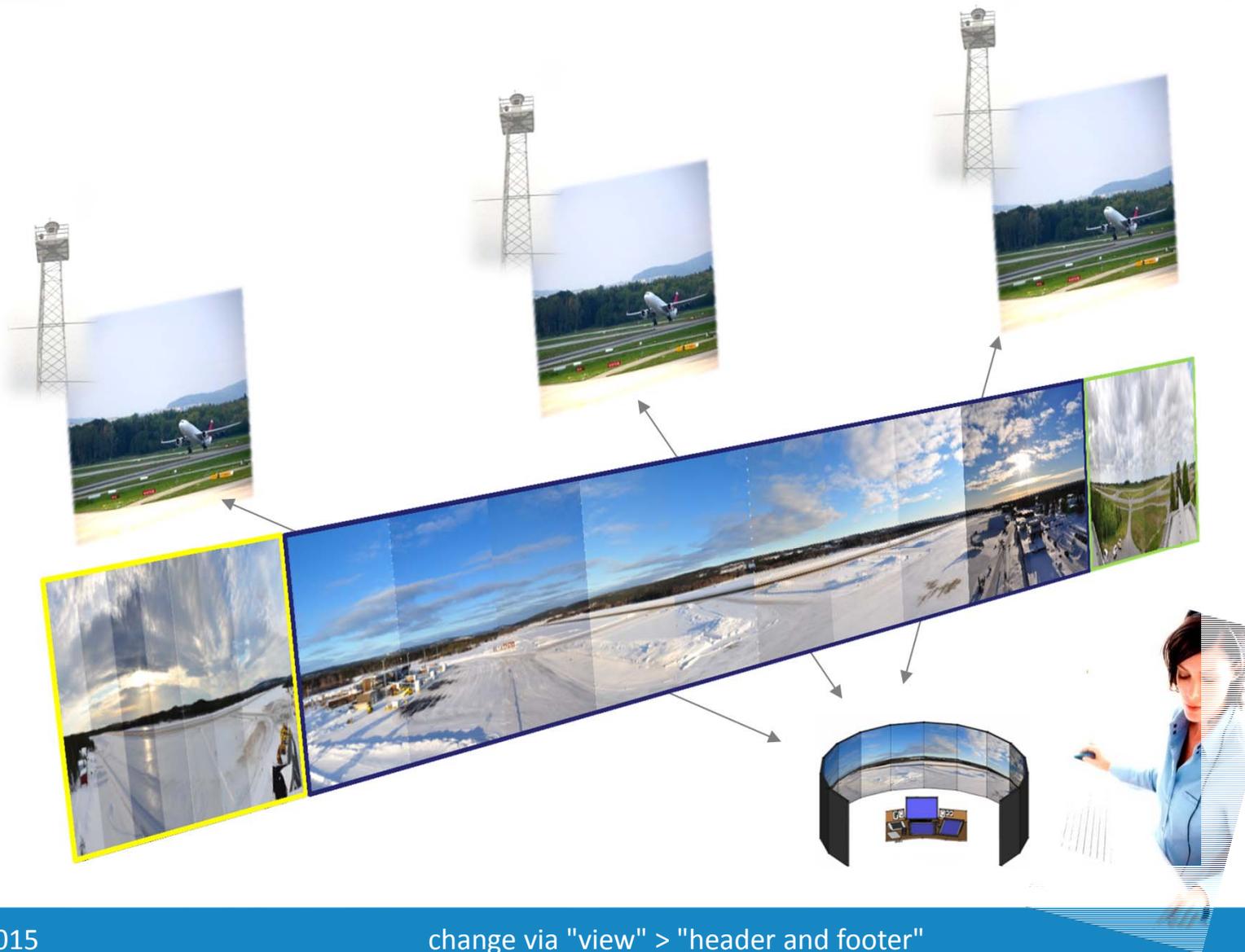
ADDITIONAL CAMERA VIEWS



VIDEO TRACKING



# Multiple airports - RTC 3.0





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## End slide

**Standards and Regulation is support to deployment,  
but not a prerequisite**

**Begin with minimum changes to the operational  
service provided, in order to gain experience and trust**

**START SMALL, BUT THINK BIG!**

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# Title presentation

- First level
  - Second level
    - Third level
      - Fourth level
        - ▶ Fifth level

